

36571037
SEQUENCE LISTING

<110> CHRISTENSEN, GEIR
ANDERSSON, KRISTIN BREVIK

<120> NON-HUMAN MAMMAL COMPRISING A MODIFIED SERCA2 GENE AND
METHODS, CELLS, GENES, AND VECTORS THEREOF

<130> 3657-1037

<140> 10/585,077

<141> 2006-06-29

<150> PCT/N004/000397

<151> 2004-12-22

<150> 60/533,740

<151> 2003-12-30

<160> 32

<170> PatentIn Ver. 3.3

<210> 1

<211> 801

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
nucleotide construct

<400> 1

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accgggtccc acctcgtggg gcttggctcg gcgcggcgcc cgacggctgc gagaggccgg 180
cgggtccacgc gcggggtctgg gccattcgccg accttagggg tctcgaatca agcttatcga 240
taccgtcgat cggacctcga gggggggccc ggtaccgggg gatcaattcg agctcgcccc 300
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gtccctcgac ctgcagccca agctccgggg atctcgagcc ggtgaccttc ccggccggcg 420
ctcagcgagt cggattgggg gggggggaga gggagtgagg aggggggagg aggttcctgc 480
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cgtttcttgt gttccccaaa gttgcacatc tggcagaagt gatgaccagg ctgaaatgac 600
tgcatgggtcc tggaggccgg agagggttta cgggcagttc cgaggccact gattaccagg 660
gtcgaataat ttctcggggg tatcaaatgt gagacagatt gttgtacgtt catacaccta 720
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<210> 2

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
nucleotide construct

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gtttaagtct gaccaggggg gatccggaac ccttaataa acttcgtata atgtatgcta 180
tacgaagtta ttaggctcct cgacctgcag cccaagctga tcctctagtc gagccccagc 240

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36571037

tggttctttc	cgccctcagaa	gccatagagc	ccaccgcctc	cccagcatgc	ctgctattgt	300
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tactcagaca	atgcgatgca	atttctctcat	tttattagga	aaggacagt	ggagtggcac	420
cttccagggt	caagggaagg	acgggggagg	ggcaacaac	agatggctgg	caactagaag	480
gcacagtcga	ggctgatcag	cgagctctag	ctagagaatt	gatcccccca	gaagaactcg	540
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ggaagcgcca	gccatttcgc	cgccaagctc	tttcagcaat	atcacgggta	gccaacgcta	660
tgctctgataa	gcgggtccgc	cacaccaaac	cggcaccaag	tcattgaaatc	caaaaaagcg	720
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 <223> Description of Artificial Sequence: Synthetic nucleotide construct

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	cgtagacgat	atcgctcgcg	gaaccacagg	ccaccagcaa	gttgcgtggg	ggtgggtttc	180
	ccatccggtg	gggacgtcta	tataaacccg	agtagcgtgg	gcattttctg	ctccggggcg	240
	acttcgctgg	cttctgtctg	ccggcgaggg	cgcaacgcgg	tacgtcgggt	gctatggccg	300
	cgagaacgcg	cagccttggtc	gaacgcagac	gcgtgttgat	ggcgggggta	cgaaagcata	360
	cgcgcttcta	caaggcgctg	gccgaagagg	tgcgggagtt	tcacgccacc	aagatctgcg	420
	gcacgctgtt	gacgctgtta	agcgggtcgc	tgcagggtcg	ctcggtgttc	gaggccacac	480
	gcgtcacctt	aatatgcgaa	gtggacctcg	gaccgcgcgg	ccccgactgc	atctgcgtgt	540
	tcgaattcgc	caatgacaag	acgctgggcg	gggtttgctc	gacattgggt	ggaaacattc	600
	caggcctggg	tggaagagct	ttttgcttcc	ttttgcaaaa	ccacactgct	cgacattggg	660
	tggaacattc	ccaggcctgg	gtggagaggc	tttttgcttc	ctcttgaaaa	ccacactgct	720
	cgatccggaa	cccttaatat	aacttcgtat	aatgtatgct	atacgaagtt	attaggtccc	780
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<220>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide

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<210> 5
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 <223> Description of Artificial Sequence: Synthetic primer

<400> 5	ccaaggaaga tggctgacc
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 <223> Description of Artificial Sequence: Synthetic
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 primer

 <400> 7
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 <210> 8
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 <220>
 <223> Description of Artificial Sequence: Synthetic
 primer

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<223> Description of Artificial Sequence: Synthetic primer

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<210> 12
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<400> 12
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35 40 45

Leu Trp Glu Leu Val Val Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
50 55 60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
65 70 75 80

36571037

Gly Glu Glu Thr Val₈₅ Thr Ala Phe Val₉₀ Glu Pro Phe Val Ile Leu₉₅ Leu
 Ile Leu Ile Ala Asn Ala Ile Val₁₀₀ Gly₁₀₅ Val Trp Gln Glu Arg Asn Ala
 Glu Asn Ala₁₁₅ Ile Glu Ala Leu Lys₁₂₀ Glu Tyr Glu Pro Glu₁₂₅ Met Gly Lys
 Val Tyr Arg Ala Asp Arg Lys₁₃₅ Ser Val Gln Arg Ile₁₄₀ Lys Ala Arg Asp
 Ile₁₄₅ Val Pro Gly Asp Ile₁₅₀ Val Glu Val Ala₁₅₅ Gly Asp Lys Val Pro₁₆₀
 Ala Asp Ile Arg Ile₁₆₅ Leu Ser Ile Lys Ser₁₇₀ Thr Thr Leu Arg Val₁₇₅ Asp
 Gln Ser Ile Leu₁₈₀ Thr Gly Glu Ser Val₁₈₅ Ser Val Ile Lys His₁₉₀ Thr Asp
 Pro Val Pro₁₉₅ Asp Pro Arg Ala Val₂₀₀ Asn Gln Asp Lys Lys₂₀₅ Asn Met Leu
 Phe Ser₂₁₀ Gly Thr Asn Ile Ala₂₁₅ Ala Gly Lys Ala Val₂₂₀ Gly Ile Val Ala
 Thr₂₂₅ Thr Gly Val Ser Thr₂₃₀ Glu Ile Gly Lys Ile₂₃₅ Arg Asp Gln Met Ala₂₄₀
 Ala Thr Glu Gln Asp₂₄₅ Lys Thr Pro Leu Gln₂₅₀ Gln Lys Leu Asp Glu₂₅₅ Phe
 Gly Glu Gln Leu₂₆₀ Ser Lys Val Ile Ser₂₆₅ Leu Ile Cys Val Ala₂₇₀ Val Trp
 Leu Ile Asn₂₇₅ Ile Gly His Phe Asn₂₈₀ Asp Pro Val His Gly₂₈₅ Gly Ser Trp
 Phe Arg₂₉₀ Gly Ala Ile Tyr Tyr₂₉₅ Phe Lys Ile Ala Val₃₀₀ Ala Leu Ala Val
 Ala Ala Ile Pro Glu Gly₃₁₀ Leu Pro Ala Val Ile₃₁₅ Thr Thr Cys Leu Ala₃₂₀
 Leu Gly Thr Arg Arg₃₂₅ Met Ala Lys Lys Asn₃₃₀ Ala Ile Val Arg Ser₃₃₅ Leu
 Pro Ser Val Glu Thr Leu Gly Cys Thr₃₄₅ Ser Val Ile Cys Ser₃₅₀ Asp Lys
 Thr Gly Thr₃₅₅ Leu Thr Thr Asn Gln₃₆₀ Met Ser Val Cys Lys₃₆₅ Met Phe Ile
 Ile Asp₃₇₀ Lys Val Asp Gly Asp₃₇₅ Val Cys Ser Leu Asn₃₈₀ Glu Phe Ser Ile
 Thr Gly Ser Thr Tyr Ala₃₉₀ Pro Glu Gly Glu Val₃₉₅ Leu Lys Asn Asp Lys₄₀₀
 Pro Val Arg Ala Gly₄₀₅ Gln Tyr Asp Gly Leu₄₁₀ Val Glu Leu Ala Thr₄₁₅ Ile

36571037

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 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Thr Leu
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 Val Glu Lys Met Asn Val Phe Asn Thr Glu Val Arg Ser Leu Ser Lys
 450 455 460
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 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Ser Pro Ala Lys Ser Ser Arg Ala Ala Val Gly Asn Lys Met
 500 505 510
 Phe Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Asn Tyr Val
 515 520 525
 Arg Val Gly Thr Thr Arg Val Pro Leu Thr Gly Pro Val Lys Glu Lys
 530 535 540
 Ile Met Ser Val Ile Lys Glu Trp Gly Thr Gly Arg Asp Thr Leu Arg
 545 550 555 560
 Cys Leu Ala Leu Ala Thr Arg Asp Thr Pro Pro Lys Arg Glu Glu Met
 565 570 575
 Val Leu Asp Asp Ser Ala Lys Phe Met Glu Tyr Glu Met Asp Leu Thr
 580 585 590
 Phe Val Gly Val Val Gly Met Leu Asp Pro Pro Arg Lys Glu Val Thr
 595 600 605
 Gly Ser Ile Gln Leu Cys Arg Asp Ala Gly Ile Arg Val Ile Met Ile
 610 615 620
 Thr Gly Asp Asn Lys Gly Thr Ala Ile Ala Ile Cys Arg Arg Ile Gly
 625 630 635 640
 Ile Phe Ser Glu Asn Glu Glu Val Thr Asp Arg Ala Tyr Thr Gly Arg
 645 650 655
 Glu Phe Asp Asp Leu Pro Leu Ala Glu Gln Arg Glu Ala Cys Arg Arg
 660 665 670
 Ala Cys Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val
 675 680 685
 Glu Tyr Leu Gln Ser Tyr Asp Glu Ile Thr Ala Met Thr Gly Asp Gly
 690 695 700
 Val Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met
 705 710 715 720
 Gly Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala
 725 730 735
 Asp Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala
 740 745 750

36571037

Ile Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn
 755 760 765
 Val Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Leu Pro
 770 775 780
 Glu Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp
 785 790 795 800
 Gly Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile
 805 810 815
 Met Asp Arg Pro Pro Arg Ser Pro Lys Glu Pro Leu Ile Ser Gly Trp
 820 825 830
 Leu Phe Phe Arg Tyr Met Ala Ile Gly Gly Tyr Val Gly Ala Ala Thr
 835 840 845
 Val Gly Ala Ala Ala Trp Trp Phe Leu Tyr Ala Glu Asp Gly Pro His
 850 855 860
 Val Ser Tyr His Gln Leu Thr His Phe Met Gln Cys Thr Glu His Asn
 865 870 875 880
 Pro Glu Phe Asp Gly Leu Asp Cys Glu Val Phe Glu Ala Pro Glu Pro
 885 890 895
 Met Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala
 900 905 910
 Leu Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp
 915 920 925
 Val Asn Ile Trp Leu Leu Gly Ser Ile Cys Leu Ser Met Ser Leu His
 930 935 940
 Phe Leu Ile Leu Tyr Val Asp Pro Leu Pro Met Ile Phe Lys Leu Arg
 945 950 955 960
 Ala Leu Asp Phe Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro
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 Glu Gly

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<211> 998

<212> PRT

<213> Mus musculus

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Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
 Page 7

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 50 55 60
 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80
 Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
 85 90 95
 Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110
 Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
 180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220
 Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235 240
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285
 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315 320
 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
 355 360 365
 Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Ser Ile
 Page 8

370 375 36571037
 380
 Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
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 Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
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 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
 450 455 460
 Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
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 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
 Leu Ala Leu Ala Thr His Asp Asn Pro Leu Lys Arg Glu Glu Met His
 565 570 575
 Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
 Page 9

705											36571037								720
				710				715											
Ser	Gly	Thr	Ala	Val	Ala	Lys	Thr	Ala	Ser	Glu	Met	Val	Leu	Ala	Asp				
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Asp	Asn	Phe	Ser	Thr	Ile	Val	Ala	Ala	Val	Glu	Glu	Gly	Arg	Ala	Ile				
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Tyr	Asn	Asn	Met	Lys	Gln	Phe	Ile	Arg	Tyr	Leu	Ile	Ser	Ser	Asn	Val				
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Asn	Lys	Pro	Pro	Arg	Asn	Pro	Lys	Glu	Pro	Leu	Ile	Ser	Gly	Trp	Leu				
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Gly	Ala	Ala	Ala	Trp	Trp	Phe	Ile	Ala	Ala	Asp	Gly	Gly	Pro	Arg	Val				
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Ser	Phe	Tyr	Gln	Leu	Ser	His	Phe	Leu	Gln	Cys	Lys	Glu	Asp	Asn	Pro				
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Thr	Met	Ala	Leu	Ser	Val	Leu	Val	Thr	Ile	Glu	Met	Cys	Asn	Ala	Leu				
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Leu	Ile	Leu	Tyr	Val	Glu	Pro	Leu	Pro	Leu	Ile	Phe	Gln	Ile	Thr	Pro				
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Ile	Leu	Met	Asp	Glu	Thr	Leu	Lys	Phe	Val	Ala	Arg	Asn	Tyr	Leu	Glu				
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Gln	Pro	Ala	Ile	Leu	Glu														
				995															

36571037

Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
1 5 10 15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
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Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
35 40 45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
50 55 60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
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Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
85 90 95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
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Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
115 120 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
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145 150 155 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
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Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
180 185 190

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195 200 205

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210 215 220

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245 250 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
260 265 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
275 280 285

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290 295 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305 310 315 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
325 330 335

36571037

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
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 Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Ser Ile
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 385 390 395 400
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 Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
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 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
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 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
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 565 570 575
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 580 585 590
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 595 600 605
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 Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
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36571037

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
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 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750
 Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765
 Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780
 Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800
 Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
 805 810 815
 Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830
 Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
 835 840 845
 Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
 850 855 860
 Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
 865 870 875 880
 Asp Phe Asp Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
 885 890 895
 Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
 900 905 910
 Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
 915 920 925
 Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
 930 935 940
 Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
 945 950 955 960
 Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
 965 970 975
 Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
 980 985 990
 Gln Pro Gly Lys Glu Cys Val Gln Pro Ala Thr Lys Ser Ser Cys Ser
 995 1000 1005

36571037

Leu Ser Ala Cys Thr Asp Gly Ile Ser Trp Pro Phe Val Leu Leu Ile
1010 1015 1020

Met Pro Leu Val Val Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp
1025 1030 1035 1040

Met Phe Trp Ser

<210> 17

<211> 999

<212> PRT

<213> Mus musculus

<400> 17

Met Glu Glu Ala His Leu Leu Ser Ala Ala Asp Val Leu Arg Arg Phe
1 5 10 15

Ser Val Thr Ala Glu Gly Gly Leu Ser Leu Glu Gln Val Thr Asp Ala
20 25 30

Arg Glu Arg Tyr Gly Pro Asn Glu Leu Pro Thr Glu Glu Gly Lys Ser
35 40 45

Leu Trp Glu Leu Val Val Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
50 55 60

Leu Leu Leu Ala Ala Leu Val Ser Phe Val Leu Ala Trp Phe Glu Glu
65 70 75 80

Gly Glu Glu Thr Thr Thr Ala Phe Val Glu Pro Leu Val Ile Met Leu
85 90 95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
100 105 110

Glu Ser Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
115 120 125

Val Ile Arg Ser Asp Arg Lys Gly Val Gln Arg Ile Arg Ala Arg Asp
130 135 140

Ile Val Pro Gly Asp Ile Val Glu Val Ala Val Gly Asp Lys Val Pro
145 150 155 160

Ala Asp Leu Arg Leu Ile Glu Ile Lys Ser Thr Thr Leu Arg Val Asp
165 170 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Thr Lys His Thr Asp
180 185 190

Ala Ile Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
195 200 205

Phe Ser Gly Thr Asn Ile Ala Ser Gly Lys Ala Leu Gly Val Ala Val
210 215 220

Ala Thr Gly Leu Gln Thr Glu Leu Gly Lys Ile Arg Ser Gln Met Ala
225 230 235 240

Ala Val Glu Pro Glu Arg Thr Pro Leu Gln Arg Lys Leu Asp Glu Phe
245 250 255

36571037

Gly Arg Gln Leu Ser His Ala Ile Ser Val Ile Cys Val Ala Val Trp
260 265 270
Val Ile Asn Ile Gly His Phe Ala Asp Pro Ala His Gly Gly Ser Trp
275 280 285
Leu Arg Gly Ala Val Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
290 295 300
Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305 310 315 320
Leu Gly Thr Arg Arg Met Ala Arg Lys Asn Ala Ile Val Arg Ser Leu
325 330 335
Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
340 345 350
Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Val
355 360 365
Val Ala Glu Ala Glu Ala Gly Thr Cys Arg Leu His Glu Phe Thr Ile
370 375 380
Ser Gly Thr Thr Tyr Thr Pro Glu Gly Glu Val Arg Gln Gly Glu Gln
385 390 395 400
Pro Val Arg Cys Gly Gln Phe Asp Gly Leu Val Glu Leu Ala Thr Ile
405 410 415
Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
420 425 430
Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
435 440 445
Val Glu Lys Met Asn Val Phe Asp Thr Asp Leu Lys Gly Leu Ser Arg
450 455 460
Val Glu Arg Ala Gly Ala Cys Asn Ser Val Ile Lys Gln Leu Met Arg
465 470 475 480
Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
485 490 495
Tyr Cys Thr Pro Thr Arg Ala Asp Pro Lys Val Gln Ser Ser Lys Met
500 505 510
Phe Val Lys Gly Ala Pro Glu Ser Val Ile Glu Arg Cys Ser Ser Val
515 520 525
Arg Val Gly Ser Arg Thr Ala Pro Leu Ser Thr Thr Ser Arg Glu His
530 535 540
Ile Leu Ala Lys Ile Arg Asp Trp Gly Ser Gly Ser Asp Thr Leu Arg
545 550 555 560
Cys Leu Ala Leu Ala Thr Arg Asp Thr Pro Pro Arg Lys Glu Asp Met
565 570 575
His Leu Asp Asp Cys Ser Arg Phe Val Gln Tyr Glu Thr Asp Leu Thr
580 585 590

36571037

Phe Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Pro Glu Val Ala
 595 600 605
 Ala Cys Val Thr Arg Cys Ser Arg Ala Gly Ile Arg Val Val Met Ile
 610 615 620
 Thr Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Leu Gly
 625 630 635
 Ile Phe Gly Asp Thr Glu Asp Val Leu Gly Lys Ala Tyr Thr Gly Arg
 645 650 655
 Glu Phe Asp Asp Leu Ser Pro Glu Gln Gln Arg Gln Ala Cys Arg Thr
 660 665 670
 Ala Arg Cys Phe Ala Arg Val Glu Pro Ala His Lys Ser Arg Ile Val
 675 680 685
 Glu Asn Leu Gln Ser Phe Asn Glu Ile Thr Ala Met Thr Gly Asp Gly
 690 695 700
 Val Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met
 705 710 715 720
 Gly Ser Gly Thr Ala Val Ala Lys Ser Ala Ala Glu Met Val Leu Ser
 725 730 735
 Asp Asp Asn Phe Ala Ser Ile Val Ala Ala Val Glu Glu Gly Arg Ala
 740 745 750
 Ile Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn
 755 760 765
 Val Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ile Leu Gly Leu Pro
 770 775 780
 Glu Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp
 785 790 795 800
 Gly Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile
 805 810 815
 Met Glu Lys Pro Pro Arg Asn Pro Arg Glu Ala Leu Ile Ser Gly Trp
 820 825 830
 Leu Phe Phe Arg Tyr Leu Ala Ile Gly Val Tyr Val Gly Leu Ala Thr
 835 840 845
 Val Ala Ala Ala Thr Trp Trp Phe Ile Ala Asp Ala Glu Gly Pro Gln
 850 855 860
 Val Thr Phe Tyr Gln Leu Arg Asn Phe Leu Lys Cys Ser Glu Asp Asn
 865 870 875 880
 Pro Leu Phe Ala Gly Ile Asp Cys Lys Val Phe Glu Ser Arg Phe Pro
 885 890 895
 Thr Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala
 900 905 910
 Leu Asn Ser Val Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp
 915 920 925

36571037

Leu Asn Pro Trp Leu Leu Gly Ala Val Val Met Ser Met Ala Leu His
 930 935 940
 Phe Leu Ile Leu Leu Val Pro Pro Leu Pro Leu Ile Phe Gln Val Thr
 945 950 955 960
 Pro Leu Ser Gly Arg Gln Trp Gly Val Val Leu Gln Met Ser Leu Pro
 965 970 975
 Val Ile Leu Met Asp Glu Ala Leu Lys Tyr Leu Ser Arg Asn His Met
 980 985 990
 Asp Glu Lys Lys Asp Leu Lys
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<400> 18
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 Ser Val Thr Ala Glu Gly Gly Leu Ser Leu Glu Gln Val Thr Asp Ala
 20 25 30
 Arg Glu Arg Tyr Gly Pro Asn Glu Leu Pro Thr Glu Glu Gly Lys Ser
 35 40 45
 Leu Trp Glu Leu Val Val Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
 50 55 60
 Leu Leu Leu Ala Ala Leu Val Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80
 Gly Glu Glu Thr Thr Thr Ala Phe Val Glu Pro Leu Val Ile Met Leu
 85 90 95
 Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110
 Glu Ser Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Ile Arg Ser Asp Arg Lys Gly Val Gln Arg Ile Arg Ala Arg Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Val Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Leu Arg Leu Ile Glu Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Thr Lys His Thr Asp
 180 185 190
 Ala Ile Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ser Gly Lys Ala Leu Gly Val Ala Val

210 215 36571037 220
 Ala Thr Gly Leu Gln Thr Glu Leu Gly Lys Ile Arg Ser Gln Met Ala
 225 230 235 240
 Ala Val Glu Pro Glu Arg Thr Pro Leu Gln Arg Lys Leu Asp Glu Phe
 245 250 255
 Gly Arg Gln Leu Ser His Ala Ile Ser Val Ile Cys Val Ala Val Trp
 260 265 270
 Val Ile Asn Ile Gly His Phe Ala Asp Pro Ala His Gly Gly Ser Trp
 275 280 285
 Leu Arg Gly Ala Val Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315 320
 Leu Gly Thr Arg Arg Met Ala Arg Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Val
 355 360 365
 Val Ala Glu Ala Glu Ala Gly Thr Cys Arg Leu His Glu Phe Thr Ile
 370 375 380
 Ser Gly Thr Thr Tyr Thr Pro Glu Gly Glu Val Arg Gln Gly Glu Gln
 385 390 395 400
 Pro Val Arg Cys Gly Gln Phe Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430
 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Asp Leu Lys Gly Leu Ser Arg
 450 455 460
 Val Glu Arg Ala Gly Ala Cys Asn Ser Val Ile Lys Gln Leu Met Arg
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Thr Arg Ala Asp Pro Lys Val Gln Ser Ser Lys Met
 500 505 510
 Phe Val Lys Gly Ala Pro Glu Ser Val Ile Glu Arg Cys Ser Ser Val
 515 520 525
 Arg Val Gly Ser Arg Thr Ala Pro Leu Ser Thr Thr Ser Arg Glu His
 530 535 540
 Ile Leu Ala Lys Ile Arg Asp Trp Gly Ser Gly Ser Asp Thr Leu Arg

545	550								36571037 555								560	
Cys	Leu	Ala	Leu	Ala 565	Thr	Arg	Asp	Thr	Pro 570	Pro	Arg	Lys	Glu	Asp 575	Met			
His	Leu	Asp	Asp 580	Cys	Ser	Arg	Phe	Val 585	Gln	Tyr	Glu	Thr	Asp 590	Leu	Thr			
Phe	Val	Gly 595	Cys	Val	Gly	Met	Leu 600	Asp	Pro	Pro	Arg	Pro 605	Glu	Val	Ala			
Ala	Cys 610	Val	Thr	Arg	Cys	Ser 615	Arg	Ala	Gly	Ile	Arg 620	Val	Val	Met	Ile			
Thr 625	Gly	Asp	Asn	Lys	Gly 630	Thr	Ala	Val	Ala	Ile 635	Cys	Arg	Arg	Leu	Gly 640			
Ile	Phe	Gly	Asp	Thr 645	Glu	Asp	Val	Leu	Gly 650	Lys	Ala	Tyr	Thr	Gly 655	Arg			
Glu	Phe	Asp	Asp 660	Leu	Ser	Pro	Glu	Gln 665	Gln	Arg	Gln	Ala	Cys 670	Arg	Thr			
Ala	Arg	Cys 675	Phe	Ala	Arg	Val	Glu 680	Pro	Ala	His	Lys	Ser 685	Arg	Ile	Val			
Glu	Asn 690	Leu	Gln	Ser	Phe	Asn 695	Glu	Ile	Thr	Ala	Met 700	Thr	Gly	Asp	Gly			
Val 705	Asn	Asp	Ala	Pro	Ala 710	Leu	Lys	Lys	Ala	Glu 715	Ile	Gly	Ile	Ala	Met 720			
Gly	Ser	Gly	Thr	Ala 725	Val	Ala	Lys	Ser	Ala 730	Ala	Glu	Met	Val	Leu 735	Ser			
Asp	Asp	Asn	Phe 740	Ala	Ser	Ile	Val	Ala 745	Ala	Val	Glu	Glu	Gly 750	Arg	Ala			
Ile	Tyr	Asn 755	Asn	Met	Lys	Gln	Phe 760	Ile	Arg	Tyr	Leu	Ile 765	Ser	Ser	Asn			
Val	Gly 770	Glu	Val	Val	Cys	Ile 775	Phe	Leu	Thr	Ala	Ile 780	Leu	Gly	Leu	Pro			
Glu 785	Ala	Leu	Ile	Pro	Val 790	Gln	Leu	Leu	Trp	Val 795	Asn	Leu	Val	Thr	Asp 800			
Gly	Leu	Pro	Ala 805	Ala	Leu	Gly	Phe	Asn 810	Pro	Pro	Pro	Asp	Leu	Asp 815	Ile			
Met	Glu	Lys	Pro 820	Pro	Arg	Asn	Pro	Arg 825	Glu	Ala	Leu	Ile	Ser 830	Gly	Trp			
Leu	Phe	Phe 835	Arg	Tyr	Leu	Ala	Ile 840	Gly	Val	Tyr	Val	Gly 845	Leu	Ala	Thr			
Val	Ala 850	Ala	Ala	Thr	Trp	Trp 855	Phe	Ile	Ala	Asp	Ala 860	Glu	Gly	Pro	Gln			
Val 865	Thr	Phe	Tyr	Gln	Leu 870	Arg	Asn	Phe	Leu	Lys 875	Cys	Ser	Glu	Asp	Asn 880			
Pro	Leu	Phe	Ala	Gly	Ile	Asp	Cys	Lys	Val	Phe	Glu	Ser	Arg	Phe	Pro			

36571037

Ile Val Pro Gly Asp Ile Val Glu Val Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Leu Arg Leu Ile Glu Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Thr Lys His Thr Asp
 180 185 190
 Ala Ile Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ser Gly Lys Ala Leu Gly Val Ala Val
 210 215 220
 Ala Thr Gly Leu Gln Thr Glu Leu Gly Lys Ile Arg Ser Gln Met Ala
 225 230 235 240
 Ala Val Glu Pro Glu Arg Thr Pro Leu Gln Arg Lys Leu Asp Glu Phe
 245 250 255
 Gly Arg Gln Leu Ser His Ala Ile Ser Val Ile Cys Val Ala Val Trp
 260 265 270
 Val Ile Asn Ile Gly His Phe Ala Asp Pro Ala His Gly Gly Ser Trp
 275 280 285
 Leu Arg Gly Ala Val Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315 320
 Leu Gly Thr Arg Arg Met Ala Arg Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Val
 355 360 365
 Val Ala Glu Ala Glu Ala Gly Thr Cys Arg Leu His Glu Phe Thr Ile
 370 375 380
 Ser Gly Thr Thr Tyr Thr Pro Glu Gly Glu Val Arg Gln Gly Glu Gln
 385 390 395 400
 Pro Val Arg Cys Gly Gln Phe Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430
 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Asp Leu Lys Gly Leu Ser Arg
 450 455 460
 Val Glu Arg Ala Gly Ala Cys Asn Ser Val Ile Lys Gln Leu Met Arg
 465 470 475 480

36571037

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Thr Arg Ala Asp Pro Lys Val Gln Ser Ser Lys Met
 500 505 510
 Phe Val Lys Gly Ala Pro Glu Ser Val Ile Glu Arg Cys Ser Ser Val
 515 520 525
 Arg Val Gly Ser Arg Thr Ala Pro Leu Ser Thr Thr Ser Arg Glu His
 530 535 540
 Ile Leu Ala Lys Ile Arg Asp Trp Gly Ser Gly Ser Asp Thr Leu Arg
 545 550 555 560
 Cys Leu Ala Leu Ala Thr Arg Asp Thr Pro Pro Arg Lys Glu Asp Met
 565 570 575
 His Leu Asp Asp Cys Ser Arg Phe Val Gln Tyr Glu Thr Asp Leu Thr
 580 585 590
 Phe Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Pro Glu Val Ala
 595 600 605
 Ala Cys Val Thr Arg Cys Ser Arg Ala Gly Ile Arg Val Val Met Ile
 610 615 620
 Thr Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Leu Gly
 625 630 635 640
 Ile Phe Gly Asp Thr Glu Asp Val Leu Gly Lys Ala Tyr Thr Gly Arg
 645 650 655
 Glu Phe Asp Asp Leu Ser Pro Glu Gln Gln Arg Gln Ala Cys Arg Thr
 660 665 670
 Ala Arg Cys Phe Ala Arg Val Glu Pro Ala His Lys Ser Arg Ile Val
 675 680 685
 Glu Asn Leu Gln Ser Phe Asn Glu Ile Thr Ala Met Thr Gly Asp Gly
 690 695 700
 Val Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met
 705 710 715 720
 Gly Ser Gly Thr Ala Val Ala Lys Ser Ala Ala Glu Met Val Leu Ser
 725 730 735
 Asp Asp Asn Phe Ala Ser Ile Val Ala Ala Val Glu Glu Gly Arg Ala
 740 745 750
 Ile Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn
 755 760 765
 Val Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ile Leu Gly Leu Pro
 770 775 780
 Glu Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp
 785 790 795 800
 Gly Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile
 805 810 815

36571037

Met Glu Lys Pro Pro Arg Asn Pro Arg Glu Ala Leu Ile Ser Gly Trp
 820 825 830
 Leu Phe Phe Arg Tyr Leu Ala Ile Gly Val Tyr Val Gly Leu Ala Thr
 835 840 845
 Val Ala Ala Ala Thr Trp Trp Phe Ile Ala Asp Ala Glu Gly Pro Gln
 850 855 860
 Val Thr Phe Tyr Gln Leu Arg Asn Phe Leu Lys Cys Ser Glu Asp Asn
 865 870 875 880
 Pro Leu Phe Ala Gly Ile Asp Cys Lys Val Phe Glu Ser Arg Phe Pro
 885 890 895
 Thr Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala
 900 905 910
 Leu Asn Ser Val Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp
 915 920 925
 Leu Asn Pro Trp Leu Leu Gly Ala Val Val Met Ser Met Ala Leu His
 930 935 940
 Phe Leu Ile Leu Leu Val Pro Pro Leu Pro Ile Phe Gln Val Thr
 945 950 955 960
 Pro Leu Ser Gly Arg Gln Trp Gly Val Val Leu Gln Met Ser Leu Pro
 965 970 975
 Val Ile Leu Met Asp Glu Ala Leu Lys Tyr Leu Ser Arg Asn His Met
 980 985 990
 Asp Glu Val Leu Gly Thr Phe Met Gln Ala Arg Ser Arg Gln Leu Pro
 995 1000 1005
 Thr Thr Ser Arg Thr Pro Tyr His Thr Gly Leu Ala Ser Trp Lys Lys
 1010 1015 1020
 Arg Thr
 1025

<210> 20
 <211> 998
 <212> PRT
 <213> Mus musculus

<400> 20
 Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
 1 5 10 15
 Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
 20 25 30
 Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
 35 40 45
 Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
 50 55 60
 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80

36571037

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
 85 90 95
 Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110
 Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
 180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220
 Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235 240
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285
 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315 320
 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
 355 360 365
 Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Ser Ile
 370 375 380
 Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
 385 390 395 400
 Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430
 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
 450 455 460
 Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
 530 535 540
 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
 Leu Ala Leu Ala Thr His Asp Asn Pro Leu Lys Arg Glu Glu Met His
 565 570 575
 Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750

36571037

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765
 Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780
 Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800
 Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
 805 810 815
 Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830
 Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
 835 840 845
 Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
 850 855 860
 Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
 865 870 875 880
 Asp Phe Asp Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
 885 890 895
 Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
 900 905 910
 Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
 915 920 925
 Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
 930 935 940
 Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
 945 950 955 960
 Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
 965 970 975
 Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
 980 985 990
 Gln Pro Ala Ile Leu Glu
 995

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 Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Leu
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 Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr

35 40 45
 Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
 50 55 60
 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80
 Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
 85 90 95
 Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110
 Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
 180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220
 Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235 240
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285
 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315
 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
 355 360 365
 Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Ser Ile

370 375 36571037
 380
 Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
 385 390 400
 Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430
 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
 450 455 460
 Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
 530 535 540
 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
 Leu Ala Leu Ala Thr His Asp Asn Pro Leu Lys Arg Glu Glu Met His
 565 570 575
 Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly

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<210> 22
 <211> 1043
 <212> PRT
 <213> Rattus norvegicus

<400> 22
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 Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
 20 25 30
 Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
 35 40 45
 Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
 50 55 60
 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80
 Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
 85 90 95
 Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110
 Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
 180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220
 Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235 240
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285

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Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
290 295 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305 310 315 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
325 330 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
340 345 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
355 360 365

Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
370 375 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
385 390 395 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
405 410 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
420 425 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
435 440 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
450 455 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465 470 475 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
485 490 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
500 505 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
515 520 525

Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
530 535 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545 550 555 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
565 570 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
580 585 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
595 600 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
610 615 620

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Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750
 Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765
 Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780
 Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800
 Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
 805 810 815
 Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830
 Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
 835 840 845
 Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
 850 855 860
 Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
 865 870 875 880
 Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
 885 890 895
 Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
 900 905 910
 Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
 915 920 925
 Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Leu His Phe
 930 935 940
 Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
 945 950 955 960

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Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
 965 970 975
 Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
 980 985 990
 Pro Gly Lys Glu Cys Ala Gln Pro Ala Thr Lys Pro Ser Cys Ser Leu
 995 1000 1005
 Ser Ala Cys Thr Asp Gly Ile Ser Trp Pro Phe Val Leu Leu Ile Met
 1010 1015 1020
 Pro Leu Val Val Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp Met
 1025 1030 1035 1040
 Phe Trp Ser

<210> 23

<211> 997

<212> PRT

<213> Rattus norvegicus

<400> 23

Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
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 Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Leu
 20 25 30
 Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
 35 40 45
 Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
 50 55 60
 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80
 Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
 85 90 95
 Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110
 Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
 180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205

36571037

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220
 Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235 240
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285
 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315 320
 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
 355 360 365
 Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
 370 375 380
 Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
 385 390 395 400
 Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430
 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
 450 455 460
 Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
 530 535 540

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Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555
 Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
 565 570 575
 Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750
 Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765
 Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780
 Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800
 Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
 805 810 815
 Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830
 Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
 835 840 845
 Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
 850 855 860
 Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
 865 870 875 880

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Asp Phe Glu Gly Val₈₈₅ Asp Cys Ala Ile₈₉₀ Phe Glu Ser Pro Tyr₈₉₅ Pro Met
 Thr Met Ala Leu₉₀₀ Ser Val Leu Val Thr₉₀₅ Ile Glu Met Cys Asn₉₁₀ Ala Leu
 Asn Ser Leu₉₁₅ Ser Glu Asn Gln Ser₉₂₀ Leu Leu Arg Met₉₂₅ Pro Trp Glu
 Asn Ile Trp Leu Val Gly Ser₉₃₅ Ile Cys Leu Ser Met₉₄₀ Ser Leu His Phe
 Leu₉₄₅ Ile Leu Tyr Val Glu₉₅₀ Pro Leu Pro Leu₉₅₅ Ile Phe Gln Ile Thr₉₆₀ Pro
 Leu Asn Leu Thr Gln₉₆₅ Trp Leu Met Val Leu₉₇₀ Lys Ile Ser Leu₉₇₅ Pro Val
 Ile Leu Met Asp₉₈₀ Glu Thr Leu Lys Phe₉₈₅ Val Ala Arg Asn Tyr₉₉₀ Leu Glu
 Pro Ala Ile₉₉₅ Leu Glu

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 <211> 997
 <212> PRT
 <213> Canis familiaris

<400> 24
 Met₁ Glu Asn Ala His₅ Thr Lys Thr Val Glu₁₀ Glu Val Leu Gly His₁₅ Phe
 Gly Val Asn Glu₂₀ Ser Thr Gly Leu Ser₂₅ Leu Glu Gln Val Lys₃₀ Lys Leu
 Lys Glu Arg₃₅ Trp Gly Ser Asn Glu₄₀ Leu Pro Ala Glu₄₅ Glu Gly Lys Thr
 Leu Leu Glu Leu Val Ile₅₅ Glu Gln Phe Glu Asp Leu₆₀ Leu Val Arg Ile
 Leu₆₅ Leu Leu Ala Ala Cys₇₀ Ile Ser Phe Val Leu₇₅ Ala Trp Phe Glu Glu₈₀
 Gly Glu Glu Thr Ile₈₅ Thr Ala Phe Val Glu₉₀ Pro Phe Val Ile Leu₉₅ Leu
 Ile Leu Val Ala₁₀₀ Asn Ala Ile Val Gly₁₀₅ Val Trp Gln Glu Arg₁₁₀ Asn Ala
 Glu Asn Ala₁₁₅ Ile Glu Ala Leu Lys₁₂₀ Glu Tyr Glu Pro Glu₁₂₅ Met Gly Lys
 Val Tyr Arg Gln Asp Arg Lys₁₃₅ Ser Val Gln Arg Ile₁₄₀ Lys Ala Lys Asp
 Ile Val Pro Gly Asp Ile₁₅₀ Val Glu Ile Ala Val₁₅₅ Gly Asp Lys Val Pro₁₆₀
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp

36571037

165 170 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
180 185 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
195 200 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
210 215 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225 230 235

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
245 250 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
260 265 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
275 280 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
290 295 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305 310 315 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
325 330 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
340 345 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
355 360 365

Leu Asp Arg Val Glu Gly Asp Ser Cys Ser Leu Asn Glu Phe Thr Ile
370 375 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
385 390 395 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
405 410 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
420 425 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
435 440 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
450 455 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465 470 475 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
485 490 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe

500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Val
 530 535 540
 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
 Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met Asn
 565 570 575
 Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750
 Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765
 Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780
 Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800
 Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
 805 810 815
 Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830
 Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val

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835 840 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
850 855 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Asp Asp Asn Pro
865 870 875 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
885 890 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
900 905 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
915 920 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
930 935 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945 950 955 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
965 970 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Glu
980 985 990

Pro Ala Ile Leu Glu
995

<210> 25
<211> 997
<212> PRT
<213> Felis catus

<400> 25
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly Tyr Phe
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Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Leu
20 25 30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
35 40 45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
50 55 60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
65 70 75 80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
85 90 95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
100 105 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
115 120 125

36571037

Val	Tyr	Arg	Gln	Asp	Arg	Lys	Ser	Val	Gln	Arg	Ile	Lys	Ala	Lys	Asp
130						135					140				
Ile	Val	Pro	Gly	Asp	Ile	Val	Glu	Ile	Ala	Val	Gly	Asp	Lys	Val	Pro
145					150					155					160
Ala	Asp	Ile	Arg	Leu	Thr	Ser	Ile	Lys	Ser	Thr	Thr	Leu	Arg	Val	Asp
				165					170					175	
Gln	Ser	Ile	Leu	Thr	Gly	Glu	Ser	Val	Ser	Val	Ile	Lys	His	Thr	Asp
			180					185					190		
Pro	Val	Pro	Asp	Pro	Arg	Ala	Val	Asn	Gln	Asp	Lys	Lys	Asn	Met	Leu
		195					200					205			
Phe	Ser	Gly	Thr	Asn	Ile	Ala	Ala	Gly	Lys	Ala	Met	Gly	Val	Val	Val
	210					215					220				
Ala	Thr	Gly	Val	Asn	Thr	Glu	Ile	Gly	Lys	Ile	Arg	Asp	Glu	Met	Val
225					230					235					240
Ala	Thr	Glu	Gln	Glu	Arg	Thr	Pro	Leu	Gln	Gln	Lys	Leu	Asp	Glu	Phe
				245					250					255	
Gly	Glu	Gln	Leu	Ser	Lys	Val	Ile	Ser	Leu	Ile	Cys	Ile	Ala	Val	Trp
			260					265					270		
Ile	Ile	Asn	Ile	Gly	His	Phe	Asn	Asp	Pro	Val	His	Gly	Gly	Ser	Trp
		275					280					285			
Ile	Arg	Gly	Ala	Ile	Tyr	Tyr	Phe	Lys	Ile	Ala	Val	Ala	Leu	Ala	Val
	290					295					300				
Ala	Ala	Ile	Pro	Glu	Gly	Leu	Pro	Ala	Val	Ile	Thr	Thr	Cys	Leu	Ala
305					310					315					320
Leu	Gly	Thr	Arg	Arg	Met	Ala	Lys	Lys	Asn	Ala	Ile	Val	Arg	Ser	Leu
				325					330					335	
Pro	Ser	Val	Glu	Thr	Leu	Gly	Cys	Thr	Ser	Val	Ile	Cys	Ser	Asp	Lys
			340					345					350		
Thr	Gly	Thr	Leu	Thr	Thr	Asn	Gln	Met	Ser	Val	Cys	Arg	Met	Phe	Ile
		355					360					365			
Leu	Asp	Lys	Val	Glu	Gly	Asp	Thr	Cys	Ser	Leu	Asn	Glu	Phe	Thr	Ile
	370					375					380				
Thr	Gly	Ser	Thr	Tyr	Ala	Pro	Ile	Gly	Glu	Val	His	Lys	Asp	Asp	Lys
385					390					395					400
Pro	Val	Lys	Cys	His	Gln	Tyr	Asp	Gly	Leu	Val	Glu	Leu	Ala	Thr	Ile
				405					410					415	
Cys	Ala	Leu	Cys	Asn	Asp	Ser	Ala	Leu	Asp	Tyr	Asn	Glu	Ala	Lys	Gly
			420					425					430		
Val	Tyr	Lys	Lys	Phe	Gly	Glu	Ala	Thr	Glu	Thr	Ala	Leu	Thr	Cys	Leu
		435					440					445			
Val	Glu	Lys	Met	Asn	Val	Phe	Asp	Thr	Glu	Leu	Lys	Gly	Leu	Ser	Lys
	450					455					460				

36571037

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Val
 530 535 540
 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
 Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met Asn
 565 570 575
 Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750
 Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765
 Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780
 Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800

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Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
 805 810
 Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830
 Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
 835 840 845
 Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
 850 855 860
 Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Asp Asp Asn Pro
 865 870 875 880
 Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
 885 890 895
 Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
 900 905 910
 Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
 915 920
 Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Leu His Phe
 930 935 940
 Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
 945 950 955 960
 Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
 965 970 975
 Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
 980 985 990
 Pro Ala Ile Leu Glu
 995

<210> 26
 <211> 997
 <212> PRT
 <213> Sus scrofa

<400> 26
 Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
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 Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
 20 25 30
 Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
 35 40 45
 Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
 50 55 60
 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80
 Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
 85 90 95

36571037

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110
 Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
 180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220
 Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235 240
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285
 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315
 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
 355 360 365
 Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
 370 375 380
 Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
 385 390 395 400
 Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
 450 455 460
 Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
 530 535 540
 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
 Leu Ala Leu Ala Thr His Asp Asn Pro Met Arg Arg Glu Glu Met Asn
 565 570 575
 Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Glu Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750
 Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Asn Val
 755 760 765

36571037

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780
 Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800
 Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
 805 810 815
 Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830
 Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
 835 840 845
 Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
 850 855 860
 Thr Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
 865 870 875 880
 Asp Phe Glu Gly Val Asp Cys Ala Val Phe Glu Ser Pro Tyr Pro Met
 885 890 895
 Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
 900 905 910
 Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
 915 920 925
 Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
 930 935 940
 Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
 945 950 955 960
 Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
 965 970 975
 Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
 980 985 990
 Pro Ala Ile Leu Glu
 995

<210> 27
 <211> 1042
 <212> PRT
 <213> Sus scrofa

<400> 27
 Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
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 Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
 20 25 30
 Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
 35 40 45
 Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile

36571037															
50					55					60					
Leu 65	Leu	Leu	Ala	Ala	Cys 70	Ile	Ser	Phe	Val	Leu 75	Ala	Trp	Phe	Glu	Glu 80
Gly	Glu	Glu	Thr	Ile 85	Thr	Ala	Phe	Val	Glu 90	Pro	Phe	Val	Ile	Leu 95	Leu
Ile	Leu	Val	Ala 100	Asn	Ala	Ile	Val	Gly 105	Val	Trp	Gln	Glu	Arg 110	Asn	Ala
Glu	Asn	Ala 115	Ile	Glu	Ala	Leu	Lys 120	Glu	Tyr	Glu	Pro	Glu 125	Met	Gly	Lys
Val	Tyr 130	Arg	Gln	Asp	Arg	Lys 135	Ser	Val	Gln	Arg	Ile 140	Lys	Ala	Lys	Asp
Ile 145	Val	Pro	Gly	Asp	Ile 150	Val	Glu	Ile	Ala	Val 155	Gly	Asp	Lys	Val	Pro 160
Ala	Asp	Ile	Arg	Leu 165	Thr	Ser	Ile	Lys	Ser 170	Thr	Thr	Leu	Arg	Val 175	Asp
Gln	Ser	Ile	Leu 180	Thr	Gly	Glu	Ser	Val 185	Ser	Val	Ile	Lys	His 190	Thr	Asp
Pro	Val	Pro 195	Asp	Pro	Arg	Ala	Val 200	Asn	Gln	Asp	Lys	Lys 205	Asn	Met	Leu
Phe	Ser 210	Gly	Thr	Asn	Ile	Ala 215	Ala	Gly	Lys	Ala	Met 220	Gly	Val	Val	Val
Ala 225	Thr	Gly	Val	Asn	Thr 230	Glu	Ile	Gly	Lys	Ile 235	Arg	Asp	Glu	Met	Val 240
Ala	Thr	Glu	Gln	Glu 245	Arg	Thr	Pro	Leu	Gln 250	Gln	Lys	Leu	Asp	Glu 255	Phe
Gly	Glu	Gln	Leu 260	Ser	Lys	Val	Ile	Ser 265	Leu	Ile	Cys	Ile	Ala 270	Val	Trp
Ile	Ile	Asn 275	Ile	Gly	His	Phe	Asn 280	Asp	Pro	Val	His	Gly 285	Gly	Ser	Trp
Ile	Arg 290	Gly	Ala	Ile	Tyr 295	Phe	Lys	Ile	Ala	Val 300	Ala	Leu	Ala	Val	Val
Ala 305	Ala	Ile	Pro	Glu	Gly 310	Leu	Pro	Ala	Val	Ile 315	Thr	Cys	Leu	Ala 320	Ala
Leu	Gly	Thr	Arg	Arg 325	Met	Ala	Lys	Lys	Asn 330	Ala	Ile	Val	Arg	Ser 335	Leu
Pro	Ser	Val	Glu 340	Thr	Leu	Gly	Cys	Thr 345	Ser	Val	Ile	Cys	Ser 350	Asp	Lys
Thr	Gly	Thr 355	Leu	Thr	Thr	Asn	Gln 360	Met	Ser	Val	Cys	Arg 365	Met	Phe	Ile
Leu	Asp 370	Lys	Val	Glu	Gly	Asp 375	Thr	Cys	Ser	Leu	Asn 380	Glu	Phe	Thr	Ile
Thr	Gly	Ser	Thr	Tyr	Ala	Pro	Ile	Gly	Glu	Val	His	Lys	Asp	Asp	Lys

385	390										36571037 395				400			
Pro	Val	Lys	Cys	His 405	Gln	Tyr	Asp	Gly	Leu 410	Val	Glu	Leu	Ala	Thr 415	Ile			
Cys	Ala	Leu	Cys 420	Asn	Asp	Ser	Ala	Leu 425	Asp	Tyr	Asn	Glu	Ala 430	Lys	Gly			
Val	Tyr	Glu 435	Lys	Val	Gly	Glu	Ala 440	Thr	Glu	Thr	Ala	Leu 445	Thr	Cys	Leu			
Val	Glu 450	Lys	Met	Asn	Val	Phe 455	Asp	Thr	Glu	Leu	Lys 460	Gly	Leu	Ser	Lys			
Ile 465	Glu	Arg	Ala	Asn	Ala 470	Cys	Asn	Ser	Val	Ile 475	Lys	Gln	Leu	Met	Lys 480			
Lys	Glu	Phe	Thr	Leu 485	Glu	Phe	Ser	Arg	Asp 490	Arg	Lys	Ser	Met	Ser 495	Val			
Tyr	Cys	Thr	Pro 500	Asn	Lys	Pro	Ser	Arg 505	Thr	Ser	Met	Ser	Lys 510	Met	Phe			
Val	Lys	Gly 515	Ala	Pro	Glu	Gly	Val 520	Ile	Asp	Arg	Cys	Thr 525	His	Ile	Arg			
Val	Gly 530	Ser	Thr	Lys	Val	Pro 535	Met	Thr	Pro	Gly	Val 540	Lys	Gln	Lys	Ile			
Met 545	Ser	Val	Ile	Arg	Glu 550	Trp	Gly	Ser	Gly	Ser 555	Asp	Thr	Leu	Arg	Cys 560			
Leu	Ala	Leu	Ala	Thr 565	His	Asp	Asn	Pro	Met 570	Arg	Arg	Glu	Glu	Met 575	Asn			
Leu	Glu	Asp	Ser 580	Ala	Asn	Phe	Ile	Lys 585	Tyr	Glu	Thr	Asn	Leu 590	Thr	Phe			
Val	Gly	Cys 595	Val	Gly	Met	Leu	Asp 600	Pro	Pro	Arg	Ile	Glu 605	Val	Ala	Ser			
Ser	Val 610	Lys	Leu	Cys	Arg	Gln 615	Ala	Gly	Ile	Arg	Val 620	Ile	Met	Ile	Thr			
Gly 625	Asp	Asn	Lys	Gly	Thr 630	Ala	Val	Ala	Ile	Cys 635	Arg	Arg	Ile	Gly	Ile 640			
Phe	Gly	Gln	Asp 645	Asp	Val	Thr	Ser	Lys 650	Ala	Phe	Thr	Gly	Arg 655	Glu				
Phe	Asp	Glu	Leu 660	Asn	Pro	Ser	Ala	Gln 665	Arg	Glu	Ala	Cys	Leu 670	Asn	Ala			
Arg	Cys	Phe 675	Ala	Arg	Val	Glu	Pro 680	Ser	His	Lys	Ser	Lys 685	Ile	Val	Glu			
Phe	Leu 690	Gln	Ser	Phe	Asp	Glu 695	Ile	Thr	Ala	Met	Thr 700	Gly	Asp	Gly	Val			
Asn 705	Asp	Ala	Pro	Ala	Leu 710	Lys	Lys	Ser	Glu	Ile 715	Gly	Ile	Ala	Met	Gly 720			
Ser	Gly	Thr	Ala	Val	Ala	Lys	Thr	Ala	Ser	Glu	Met	Val	Leu	Ala	Asp			

36571037

725 730 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
740 745 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
755 760 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
770 775 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785 790 795 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
805 810 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
820 825 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
835 840 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
850 855 860

Thr Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865 870 875 880

Asp Phe Glu Gly Val Asp Cys Ala Val Phe Glu Ser Pro Tyr Pro Met
885 890 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
900 905 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
915 920 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
930 935 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945 950 955 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
965 970 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
980 985 990

Pro Gly Lys Glu Cys Val Gln Pro Ala Thr Lys Ser Cys Ser Phe Ser
995 1000 1005

Ala Cys Thr Asp Gly Ile Ser Trp Pro Phe Val Leu Leu Ile Met Pro
1010 1015 1020

Leu Val Val Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp Met Phe
1025 1030 1035 1040

Trp Ser

36571037

<210> 28
 <211> 1042
 <212> PRT
 <213> Homo sapiens

<400> 28
 Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
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 Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Leu
 20 25 30
 Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
 35 40 45
 Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
 50 55 60
 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80
 Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
 85 90 95
 Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110
 Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
 180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220
 Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235 240
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285
 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300

36571037

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315 320
 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
 355 360 365
 Leu Asp Arg Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
 370 375 380
 Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
 385 390 395 400
 Pro Val Asn Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430
 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
 450 455 460
 Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Ser Gly Val Lys Gln Lys Ile
 530 535 540
 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
 Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
 565 570 575
 Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640

36571037

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655

Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700

Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met Gly
 705 710 715 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
 805 810 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
 835 840 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
 850 855 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
 865 870 875 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
 885 890 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
 900 905 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
 915 920 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
 930 935 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
 945 950 955 960

Leu Asn Val Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
 965 970 975

36571037

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
 980 985 990
 Pro Gly Lys Glu Cys Val Gln Pro Ala Thr Lys Ser Cys Ser Phe Ser
 995 1000 1005
 Ala Cys Thr Asp Gly Ile Ser Trp Pro Phe Val Leu Leu Ile Met Pro
 1010 1015 1020
 Leu Val Val Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp Met Phe
 1025 1030 1035 1040
 Trp Ser

<210> 29
 <211> 998
 <212> PRT
 <213> Homo sapiens

<400> 29
 Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
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 Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
 20 25 30
 Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
 35 40 45
 Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
 50 55 60
 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80
 Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
 85 90 95
 Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110
 Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
 180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220

36571037

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285
 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315 320
 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
 355 360 365
 Leu Asp Arg Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
 370 375 380
 Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
 385 390 395 400
 Pro Val Asn Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430
 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
 450 455 460
 Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Ser Gly Val Lys Gln Lys Ile
 530 535 540
 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560

36571037

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
 565 570 575
 Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750
 Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765
 Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780
 Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800
 Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
 805 810 815
 Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830
 Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
 835 840 845
 Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
 850 855 860
 Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
 865 870 875 880
 Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
 885 890 895

36571037

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
 900 905 910
 Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
 915 920 925
 Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
 930 935 940
 Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
 945 950 955 960
 Leu Asn Val Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
 965 970 975
 Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
 980 985 990
 Pro Val Leu Ser Ser Leu
 995

<210> 30
 <211> 997
 <212> PRT
 <213> Homo sapiens

<400> 30
 Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
 1 5 10 15
 Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
 20 25 30
 Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
 35 40 45
 Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Val Arg Ile
 50 55 60
 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80
 Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
 85 90 95
 Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110
 Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp

36571037

180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220
 Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235 240
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285
 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315 320
 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
 355 360 365
 Leu Asp Arg Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
 370 375 380
 Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
 385 390 395 400
 Pro Val Asn Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430
 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
 450 455 460
 Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg

515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Ser Gly Val Lys Gln Lys Ile
 530 535 540
 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
 Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
 565 570 575
 Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750
 Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765
 Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780
 Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800
 Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
 805 810 815
 Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830
 Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
 835 840 845
 Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val

36571037

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
 180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220
 Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285
 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315
 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
 355 360 365
 Leu Asp Lys Val Asp Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
 370 375 380
 Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
 385 390 395 400
 Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430
 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445
 Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
 450 455 460
 Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480

36571037

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Ala Gly Val Lys Gln Lys Ile
 530 535 540
 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
 Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
 565 570 575
 Leu Lys Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Glu Glu Asp Val Thr Ala Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750
 Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765
 Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780
 Ala Leu Ile Pro Val Gln Leu Trp Val Asn Leu Val Thr Asp Gly
 785 790 795 800
 Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Asp Leu Asp Ile Met
 805 810 815

36571037

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
 820 825 830
 Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
 835 840 845
 Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
 850 855 860
 Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
 865 870 875 880
 Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
 885 890 895
 Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
 900 905 910
 Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
 915 920 925
 Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
 930 935 940
 Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
 945 950 955 960
 Leu Asn Val Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
 965 970 975
 Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
 980 985 990
 Pro Ala Ile Leu Glu
 995

<210> 32
 <211> 1042
 <212> PRT
 <213> Oryctolagus cuniculus

<400> 32
 Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
 1 5 10 15
 Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
 20 25 30
 Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
 35 40 45
 Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
 50 55 60
 Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65 70 75 80
 Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
 85 90 95
 Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
 100 105 110

36571037

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
 115 120 125
 Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
 130 135 140
 Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
 145 150 155 160
 Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
 165 170 175
 Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
 180 185 190
 Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
 195 200 205
 Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
 210 215 220
 Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
 225 230 235 240
 Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
 245 250 255
 Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
 260 265 270
 Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
 275 280 285
 Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
 290 295 300
 Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
 305 310 315 320
 Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
 325 330 335
 Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
 340 345 350
 Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
 355 360 365
 Leu Asp Lys Val Asp Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
 370 375 380
 Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
 385 390 395 400
 Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
 405 410 415
 Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
 420 425 430
 Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
 435 440 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
 450 455 460
 Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
 465 470 475 480
 Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
 485 490 495
 Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
 500 505 510
 Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
 515 520 525
 Val Gly Ser Thr Lys Val Pro Met Thr Ala Gly Val Lys Gln Lys Ile
 530 535 540
 Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
 545 550 555 560
 Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
 565 570 575
 Leu Lys Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
 580 585 590
 Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
 595 600 605
 Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
 610 615 620
 Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
 625 630 635 640
 Phe Gly Gln Glu Glu Asp Val Thr Ala Lys Ala Phe Thr Gly Arg Glu
 645 650 655
 Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
 660 665 670
 Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
 675 680 685
 Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
 690 695 700
 Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met Gly
 705 710 715 720
 Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
 725 730 735
 Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
 740 745 750
 Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
 755 760 765
 Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
 770 775 780

36571037

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785 790 795 800
Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
805 810 815
Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
820 825 830
Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
835 840 845
Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
850 855 860
Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865 870 875 880
Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
885 890 895
Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
900 905 910
Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
915 920 925
Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
930 935 940
Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945 950 955 960
Leu Asn Val Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
965 970 975
Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
980 985 990
Pro Gly Lys Glu Cys Val Gln Pro Ala Pro Gln Ser Cys Ser Leu Trp
995 1000 1005
Ala Cys Thr Glu Gly Val Ser Trp Pro Phe Val Leu Leu Ile Val Pro
1010 1015 1020
Leu Val Met Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp Leu Leu
1025 1030 1035 1040
Trp Ser